

REMARKS

This amendment is being submitted concurrently with a Request for Continued Examination (RCE), and claims 11-31 are now pending, of which claims 11 and 21 are independent. Claims 11 and 21 have been amended, claims 30-31 have been added, and claims 1-10 are directed to the non-elected invention and have been canceled without prejudice or disclaimer for prosecution in a timely filed divisional application. No new matter is involved with any amended or new claim.

Claims 15-20 and 24-29 are directed to the non-elected species and have been withdrawn and remain pending in this application subject to rejoinder upon the allowance of a generic or linking claim.

Anticipation by Paillaman et al.

Withdrawal of the rejection of claims 11-14 and 21-23 under 35 U.S.C. §102(b) as being anticipated by Paillaman et al. (US 2002/0080905) is requested.

Applicants note that anticipation requires the disclosure, in a prior art reference, of each and every limitation as set forth in the claims.¹ There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. §102.² To properly anticipate a claim, the reference must teach every element of the claim.³ “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference”.⁴ “The identical invention must be shown in as complete detail as is contained in the ...claim.”⁵ In determining anticipation, no claim limitation may be ignored.⁶ In view of the foregoing authority, the cited reference fails to anticipate independent claims 11 and 21, particularly as amended.

¹ *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).

² *Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 USPQ2d 1001 (Fed. Cir. 1991).

³ See MPEP § 2131.

⁴ *Verdegal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

⁵ *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

⁶ *Pac-Tex, Inc. v. Amerace Corp.*, 14 USPQ2d 187 (Fed. Cir. 1990).

Discussion of Applicants' Disclosure

By way of background, the present application, in variously disclosed embodiments, is directed to an apparatus for executing an operation in a vessel of a nuclear reactor, *e.g.*, an inspection and/or repair operation. The apparatus may include a body suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel. As discussed at least at paragraphs [0004] – [0005], [0009], and [0040], some conventional approaches require that an apparatus for executing an operation in a vessel of a nuclear reactor use a guide mechanism connected to a jet pump or some other connection to the reactor vessel to support the apparatus, for example.

Applicants point out that the law is well-settled with respect to use of terms such as “adapted for”, “capable of”, or “suitable for” if such modifiers impart structure or structural requirements to the claimed limitation, and do not represent mere “statements of intended use”. Such is the case here, in that bodies that are not suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel are specifically disclaimed by Applicants, and only bodies that are configured to be suspended and lowered into the vessel or a pump connected to the vessel are contemplated for inclusion in the claimed invention.

In contrast to such conventional approaches, Applicants' disclosed and claimed invention has, as one objective, elimination of a guide mechanism to a jet pump or vessel and, accordingly, does not require and does not use any such support connected to the pressure vessel or to a pump in or connected to the pressure vessel and, as discussed in the disclosure.

Applicants' apparatus may further include a tool attached to the body for either repairing or inspecting an interior of the pump in the vessel, or both, and a guide having an inclined surface with respect to a vertical axis of the body when the body is suspended. The guide may be movably supported at a lower portion of the body so that the inclined surface of the guide is first inserted into the pump when the body is suspended and lowered into the vessel.

Discussion of Distinctions over Paillaman et al.

Paillaman et al. disclose an inspection apparatus for inspecting welds in a nuclear reactor jet pump, and the examiner asserts that apparatus 82 of Paillaman et al. teaches the invention claimed in claim 11 and 21. The examiner further asserts that frame structure 84 in FIG. 3 corresponds to Applicants' claimed body; sensors 140 in FIG. 4 correspond to Applicants' claimed tool; and that tool head 120 in FIGS. 3 and 4 correspond to Applicants' claimed guide. Applicants respectfully traverse the Examiner's characterization of the applied art.

Initially, frame structure 82 does not correspond to the claimed "body". Further, the examiner states that frame structure 82 of Paillaman et al. is "capable of being suspended and lowered into the vessel". However, according to paragraph [0026] of Paillaman et al., frame structure 82 is "configured to attach to top flange 18 of reactor pressure vessel." In other words, frame structure 82 is required to be attached to the pressure vessel during the operation. However, and in contrast, the body of Applicants' claimed invention is suspended and lowered into the pressure vessel during the operation without connection to the pressure vessel or a pump connected to the pressure vessel. What appears to correspond to the claim limitation "body" in Paillaman et al. is tool head 102.

Further, there is no element in Paillaman et al. that corresponds to the recited "guide" of Applicants' claimed invention. As mentioned above, the claim limitation of "body" corresponds to tool head 120 of Paillaman et al., so that tool head 120 can not reasonably correspond to the claimed guide, as asserted by the Examiner.

FIG. 4 of Paillaman et al. is a side view of tool head 120, which Applicants submit reasonably corresponds to Applicants' claimed "body". According to the descriptions of paragraphs [0029] and [0030] of Paillaman et al., probe subassembly 130 comprises probe arms 136 and sensor 140, and is supported at the lower portion of tool head 120. However, there is no guide supported at the lower portion of tool head 120. The guide used in Paillaman et al. corresponds to insertion subassembly 144, which is coupled to suction inlet 68 of jet pump 62. Applicants point out that paragraph [0031] of Paillaman states that "Insertion subassembly 144 is sized to receive tool head 120 and connected flexible cable 112 and guide tool head 120 into jet pump 62 through suction inlet 68." Applicants' disclosed

and claimed invention is further differentiated from Paillaman et al. in that the guide is movably supported at the body, and not at the pump.

Further, if probe subassembly 130 (probe arms 136 or sensor 140) is offered as disclosing the claimed guide, Applicants point out that probe subassembly 130 does not have any inclined surface with respect to a vertical axis of the body when the body is suspended in the pressure vessel.

Therefore, Applicants submit that Paillaman et al. cannot anticipate the presently pending claims, as more specifically discussed below.

Specific Deficiencies of Paillaman et al.

The applied art does not disclose an apparatus for executing an operation in a vessel of a nuclear reactor which includes, among other features, “a body suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel...”, as recited in independent claim 11, as amended.

Further, the applied art does not disclose an apparatus for executing an operation in a pressure vessel of a nuclear reactor which includes, among other features, “a body capable of being suspended and lowered into the pressure vessel during the operation without mechanical coupling to the pressure vessel or a pump connected to the pressure vessel...”, as recited in independent claim 21, as amended.

Accordingly, consideration and allowance of amended independent claims 11 and 21 are respectfully requested. Dependent claims 11-20, and 22-31 variously and ultimately depend from allowable claims 11 and 21, and are submitted as being allowable at least on that basis without further recourse to the patentable subject matter contained therein.

Anticipation by Ganoza et al.

Withdrawal of the rejection of claims 11-14 and 21-23 under 35 U.S.C. §102(b) as being anticipated by Ganoza et al. (US 2003/0085301 A1) is requested. The legal requirements for anticipation have been set forth above.

Discussion of Distinctions over Ganoza et al.

Ganoza et al. disclose a cleaning device for a jet pump nozzle in a nuclear reactor, and the examiner asserts that first end 84 corresponds to Applicants' claimed "body"; hydrolaze head assembly 92 corresponds to the claimed "tool"; and semi-circular bend 100 corresponds to the claimed "guide" because first end 84 has a plurality of bends 82 and FIGS. 4, 5, and 8 illustrate that semicircular bend 100 has an inclined surface with respect to the vertical axis of body 84 when it is suspended.

However, according to paragraph [0021] of Ganoza et al., tubing section 82 including first end 84 is "a rigid high-pressure conduit". Also, Ganoza et al. describes in paragraph [0024] that "[f]irst end 84 is removably coupled to hydrolaze head assembly 92 by a first end coupling 104. In one embodiment, first end coupling 104 is threaded and welded to tubing section 82. In another embodiment, first end coupling 104 is formed on tubing section first end 84."

From this, it is clear that semi-circular bend 100 (which is asserted by the Examiner as corresponding to the guide) is rigidly supported at the lower portion of the body. On the other hand, the guide in Applicants' disclosed and claimed invention is movably supported at the lower portion of the body, a further distinction over the applied art.

Further, according to paragraph [0035] of Ganoza et al., when positioning cleaning device first end 84 within the jet pump nozzle section, the operator inserts the first end 84 of the cleaning device including hydrolaze head assembly 92 through the inlet vent of the jet pump using handling pole 160, which is fixed to mid-section 88 of cleaning device 80. Thus, it is clear that the apparatus disclosed in Ganoza et al. *must* use handling pole 160 to position the operation apparatus.

Along these lines, and in further contrast, Applicants' claimed apparatus need not use a handling pole or the like to position the apparatus in the jet pump because Applicants' guide is movably supported at the lower portion of the body so that the inclined surface of the guide is first inserted into the pump when the body is suspended and lowered in the pressure vessel. In Applicants' claimed invention, insertion of the apparatus may be easily

accomplished by just suspending the body by wire and lowering it into the pressure vessel or into a jet pump connected to the pressure vessel, without a special handling pole.

Therefore, Applicants submit that Ganoza et al. cannot anticipate the presently pending claims, as more specifically discussed below.

Specific Deficiencies of Ganoza et al.

The applied art does not disclose an apparatus for executing an operation in a vessel of a nuclear reactor which includes, among other features, "a body suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel...[and] a guide having an inclined surface with respect to a vertical axis of the body when the body is suspended, wherein the guide is movably supported at a lower portion of the body so that the inclined surface of the guide is first inserted into the pump when the body is suspended and lowered into the vessel", as recited in independent claim 11, as amended.

Further, the applied art does not disclose an apparatus for executing an operation in a pressure vessel of a nuclear reactor which includes, among other features, "a body capable of being suspended and lowered into the pressure vessel during the operation without mechanical coupling to the pressure vessel or a pump connected to the pressure vessel...[and] a guide capable of being inclined with respect to a vertical axis of the body when the body is suspended, wherein the guide is movably supported at a lower portion of the body so that the guide is inserted into the pump along a tapering surface of an opening in the pump when the body is suspended and lowered in the pressure vessel", as recited in independent claim 21, as amended.

Accordingly, consideration and allowance of amended independent claims 11 and 21 are respectfully requested. Dependent claims 11-20, and 22-31 variously and ultimately depend from allowable claims 11 and 21, and are submitted as being allowable at least on that basis without further recourse to the patentable subject matter contained therein.

New Claims

New dependent claims 30-31 have been drafted to avoid the applied art and to further define that which Applicants are entitled to claim. No new matter is involved with any new claim.

Rejoinder of Non-Elected Species Claims

Rejoinder and allowance of previously withdrawn non-elected species claims 15-20 and 24-29 are requested. These claims variously and ultimately depend from allowable claims 11 and 21, and are submitted as being allowable at least on that basis, without further recourse to the patentable features claimed therein.

Conclusion

In view of the above amendment and remarks, Applicant submits that each of pending claims 11-31 in the present application is in immediate condition for allowance. An early indication of the same would be appreciated.

In the event the Examiner believes that an interview would be helpful in resolving any outstanding issues in this case, the undersigned attorney is available at the telephone number indicated below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975, including RCE fees, fees for extensions of time, and fees for excess claims. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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